UC15 WinCE USB Driver User Guide

UMTS/HSPA Module Series

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About the Document

History

Revision	Date	Author	Description
1.0	2014-03-07	Wythe WANG	Initial

Contents

Table Index

Figure Index

1 Introduction

This document mainly introduces how to integrate the USB driver for UC15 module in WinCE 6.0 OS, and how to use the USB port after the USB driver is loaded successfully.

2 System Integrating

When USB device is connected to the host system, the host system will load USB driver automatically. Therefore, it is strongly recommended that you integrate the USB driver into the development board when you create the WinCE system image.

2.1. Introduction of Driver Package

UC1 provides USB driver package for WinCE which includes BINARY and REG folders. qlril.dll is stored in BINARY folder. qlril.reg, matching with qlril.dl, is stored in REG folder. Please refer to the structure of driver package as below:

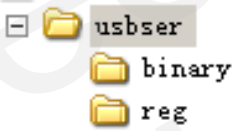

Figure 1: USB Driver Package Structure

2.2. Integrate USB Driver Files

The way of integrating WinCE USB driver mainly introduces how to add the driver BINARY and REG files in your WinCE system. When you start the integration, you should follow the steps as below:

2.2.1. Check System Component

Before integrating driver package for UC15, you should make sure that you have enabled USB Host Support under kernel option in your WinCE system because the running of USB driver depends on this system component.

2.2.2. Copy Files

Please copy the qlusbser.dll and qlusbser.reg in driver package to your BSP project folder, i.e. C:\WINCE600\PLATFORM\<TARGETBSP>\FILES.

NOTE

Please do remember to change <TARGETBSP> as your own BSP directory name.

2.2.3. Modify the Platform.reg

Add the line below at the end of platform.reg.

```
#include “$(_PLATFORMROOT)\<TARGETBSP>\FILES\qlusbser.reg”
```

2.2.4. Modify the Platform.bib

1. For WinCE6.0, add the line below:

```
MODULES
..
..
qlusbser.dll          $(_PLATFORMROOT)\(TARGETBSP)\FILES\qlusbser.dll     NK        SHK
..
..
```

2. For WinCE5.0, add the line below:

```
MODULES
..
..
qlusbser.dll          $(_PLATFORMROOT)\(TARGETBSP)\FILES\qlusbser.dll     NK        SHC
..
..
```

2.2.5. Rebuild and Create System Image

After you have done the four steps above, you need to execute “clean sysgen” command to rebuild your project and create the new system image.

2.3. USB COM Port

Download the new system image to your target board and reboot your WinCE system. For the newly installed system, USB driver will be loaded when you connect UC15module to the board with USB port. After the USB driver has been loaded, the driver will register three COM devices to the system device manager. The index of default COM devices which are defined in the qlusbser.reg lists as below:

- COM5
- COM6
- COM7
- COM8

You can use serial port tool to check whether these COM ports are created or not. And the corresponding relations between interface and device name below which had been set in the default REG files are shown as below:

Table 1: Relationship between Interfaces and COM Devices

INDEX	Interface Name	Device Name
0	DM Interface	COM5
1	Reserved Interface	COM6
2	AT Interface	COM7
3	Modem Interface	COM8
4	NDIS Interface	NONE

NOTE

The index for interface is defined in REG files in the driver package. You must modify the index as your free COM index of your WinCE board.

3 COM Port for Application

For WinCE system, you can send AT commands with USB AT Port and set up the PPP connection with USB Modem Port. In this way, you can enjoy the VOICE CALL or SMS over USB AT Port and surf the Internet over the USB Modem Port.

3.1. Testing AT Commands on AT Port

Open the USB AT Port with the serial debugging tool and send “AT\r\n” to the COM port. If the tool receives the result code “OK”, it proves that the UC15 module is available for system.

3.2. Create PPP Connection on Modem Port

In WinCE, you can make a new PPP connection on “Network and Dial-up Connections” system options. It is simple to set up PPP dial-up over our UC15 module via the new PPP connection. After PPP dial-up connection is established, you can enjoy surfing the Internet. The method of creating PPP connection is given as below:

1. Open and enter “Control Panel”.

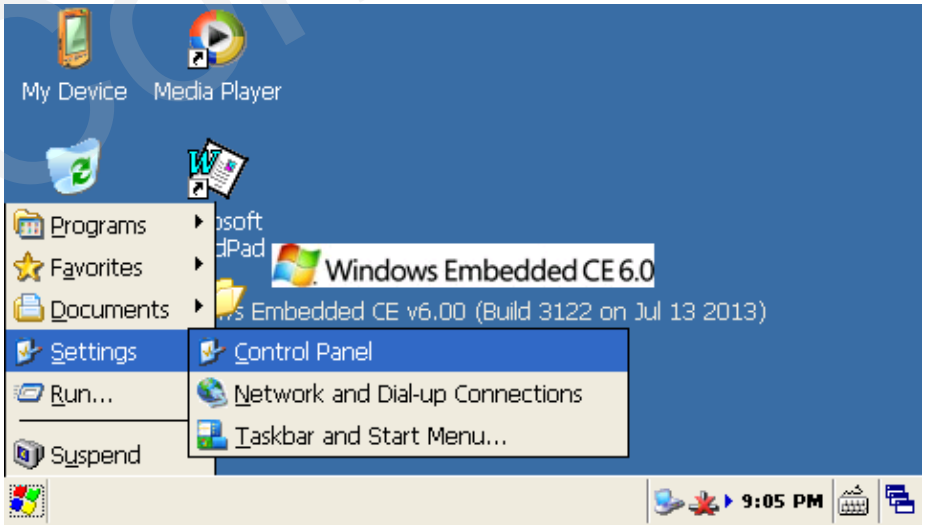

Figure 2: Open Control Panel

2. Double click “Network and dial-up connections”

Figure 3: Click Network and Dial-up Connections

3. Enter window interface below:

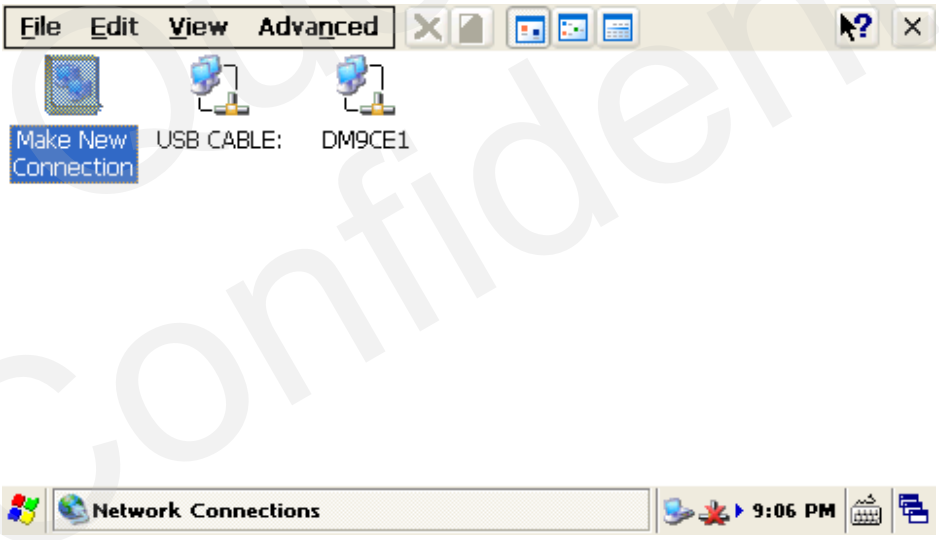

Figure 4: Click Make New Connection

4. Double click the “Make New Connection”:

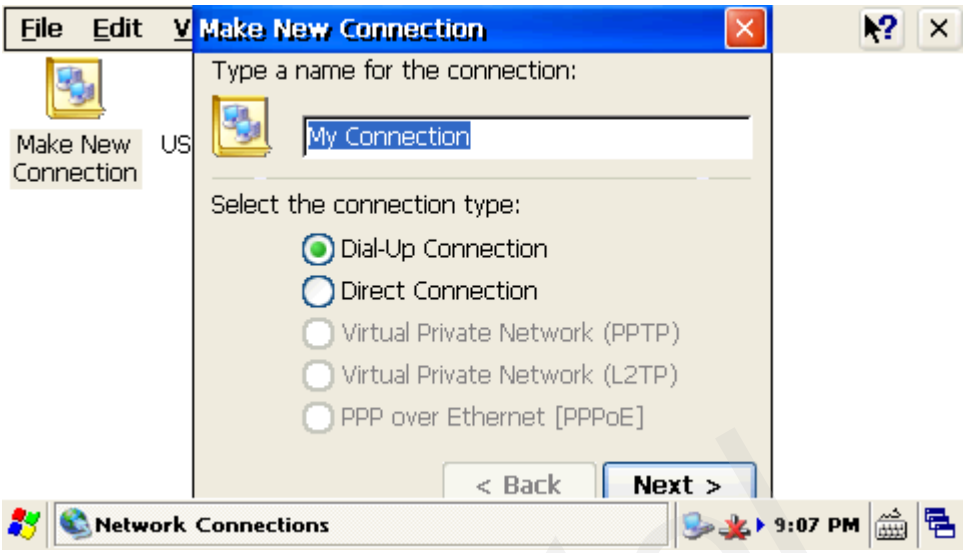

Figure 5: Make New Connection Interface

5. Click the “Next” button:

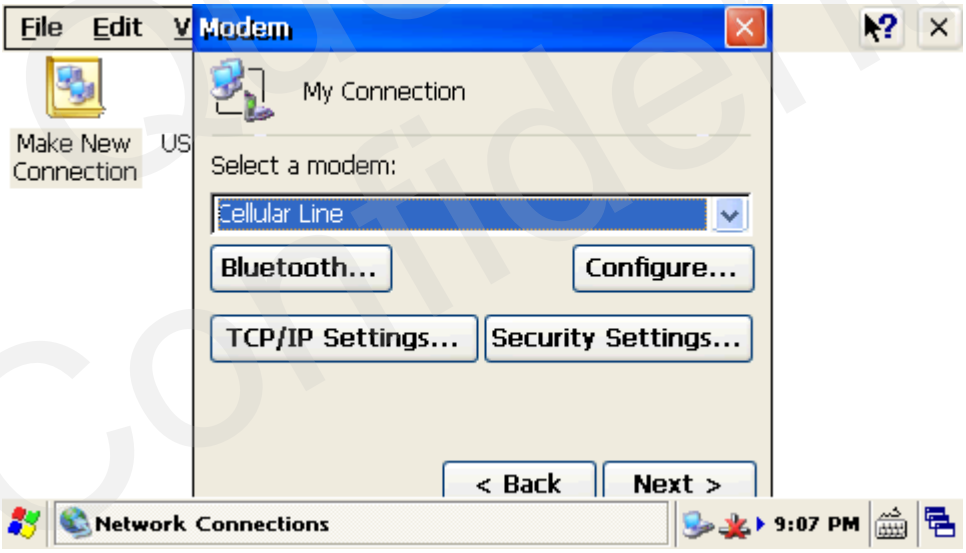

Figure 6: Modem Selection Interface

6. Select “Call Options” and configure the APN in the “Extra Settings” text-box. For example, you can use SIM Card of CHINA-UNICOM, and you need to set “3gnet” for CHINA-UNICOM to your APN:

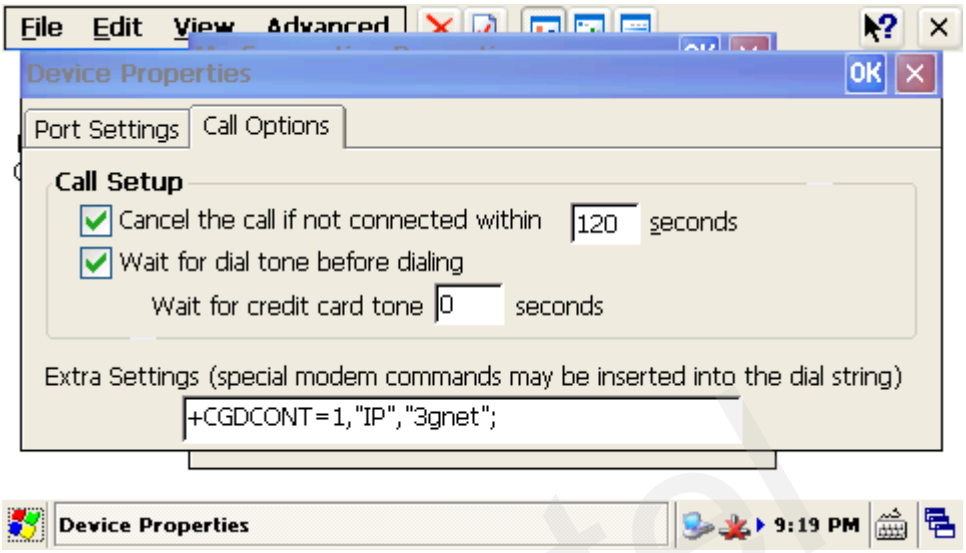

Figure 7: Set APN

7. Click “OK” and click “Next” button. It goes to the interface of phone number configuration. Then, fill in “*99#” the Phone number text-box:

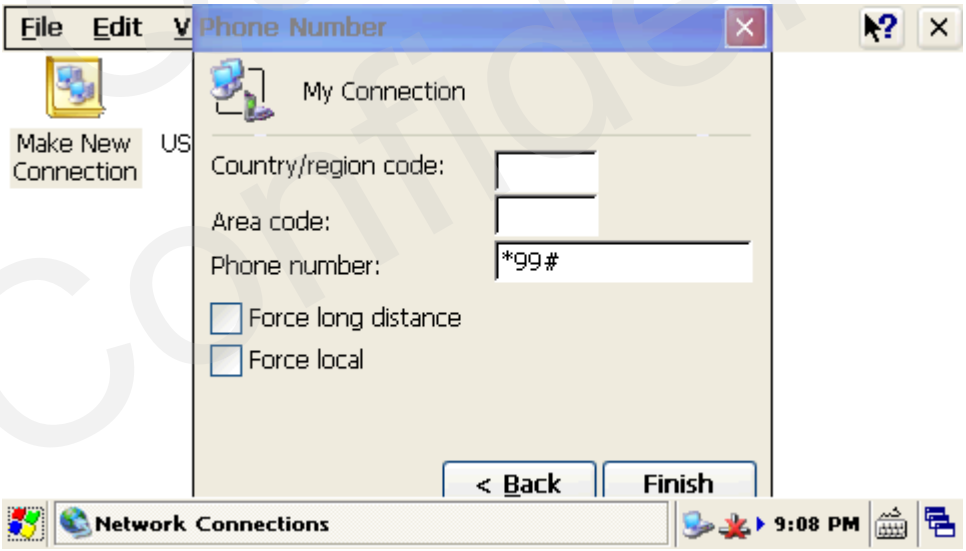

Figure 8: Set Phone Number

8. Click “Finish” button and a new icon named “My Connection” will appear in this window:

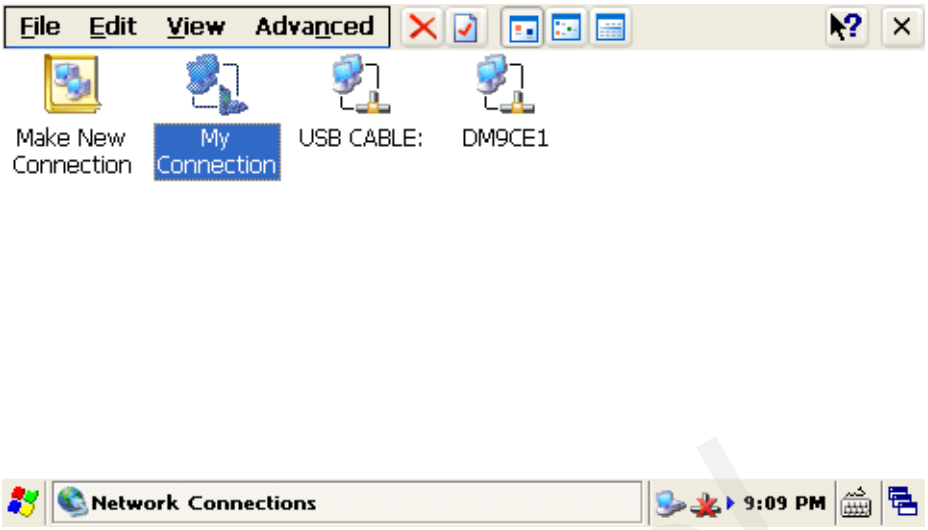

Figure 9: Add New Connection OK

9. Double click “My Connection” icon:

Figure 10: Dial-up Connection Interface

10. Fill in user name and password of PPP dial-up in the text-box. It uses ‘“wap” as User Name and Password here:

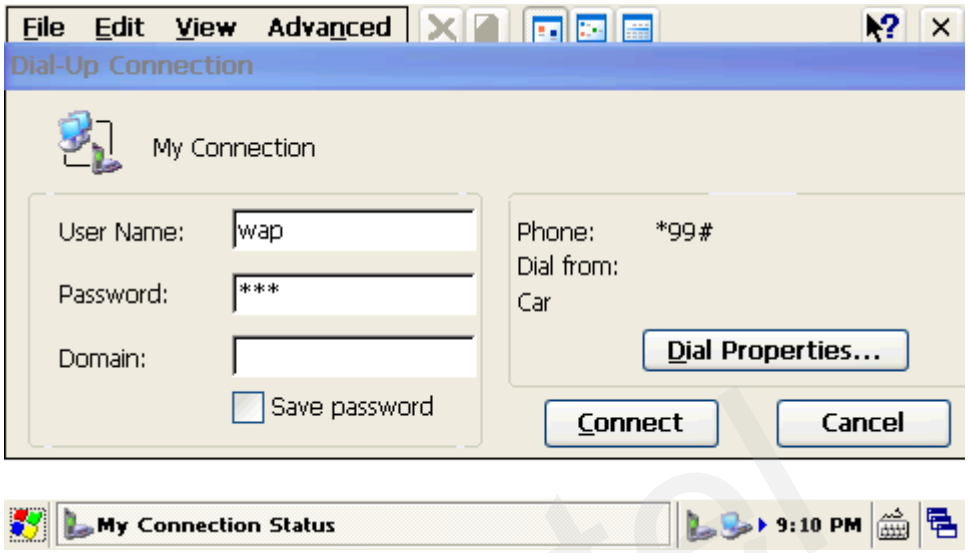

Figure 11: Add User Name and Password

11. Click “Connect” button to set up the PPP connection:

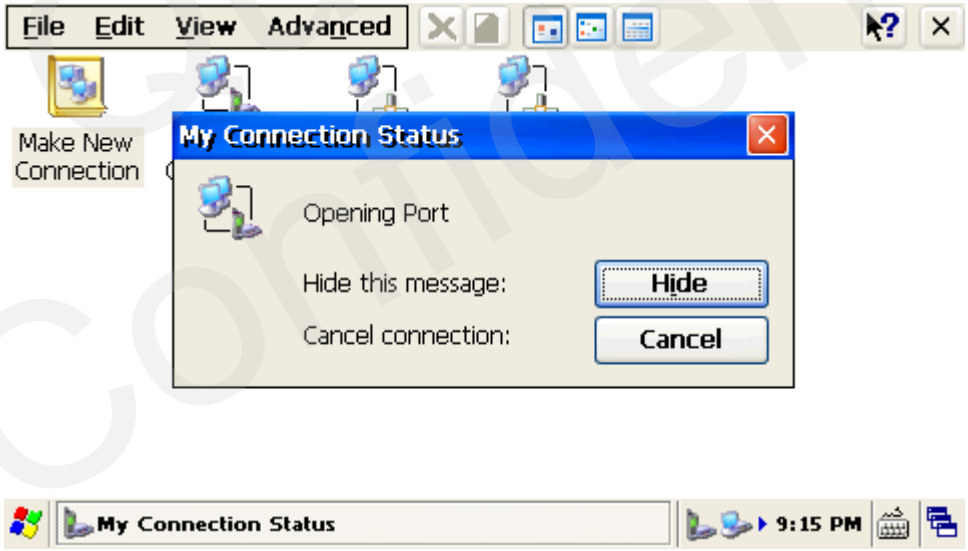

Figure 12: Begin to set-up PPP connection

12. Usually, the PPP dial-up will be connected in several seconds:

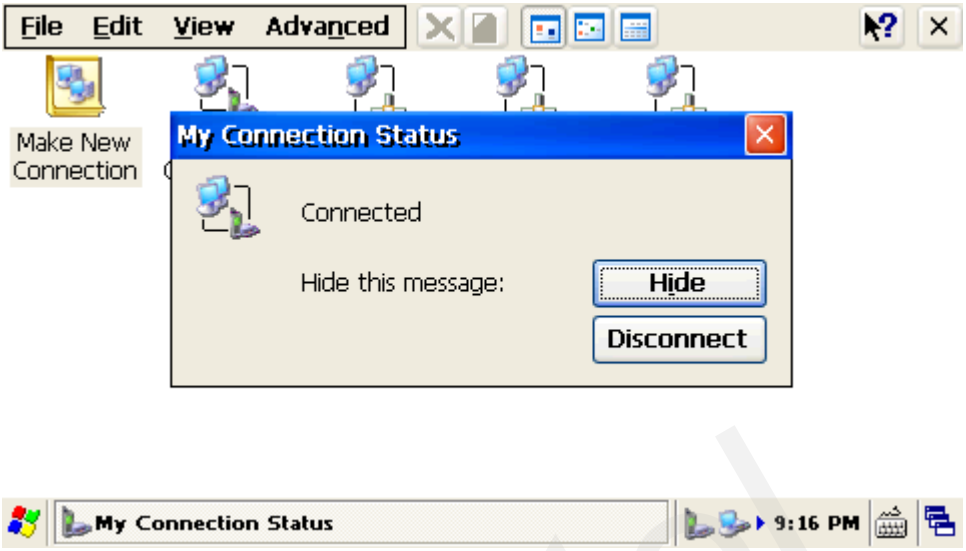

Figure 13: PPP Connected

13. Finally, you can surf the Internet on your WinCE board:

Figure 14: Surf the Internet

4 Appendix A Reference

Table 2: Terms and Abbreviations

Abbreviation	Description
OS	Operating System
USB	Universal Serial Bus
BSP	Board Support Package